

The opinion in support of the decision being entered today was not written for publication and is not binding precedent of the Board.

Paper No. 17

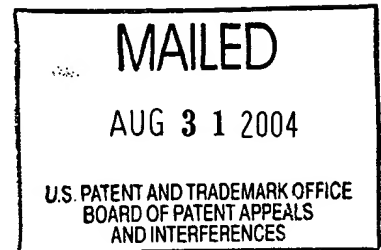
UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

Ex parte ROBERT RASMUSSEN and JIANPING P. YANG

Appeal No. 2004-1864  
Application No. 09/589,055

ON BRIEF



Before KIMLIN, KRATZ and JEFFREY T. SMITH, Administrative Patent Judges.

KRATZ, Administrative Patent Judge.

DECISION ON APPEAL

This is a decision on appeal from the examiner's final rejection of claims 16-37 and 48-54. Claims 1-15 and 38-47, which are the only other claims that remain pending in this application, stand withdrawn from further consideration by the examiner as drawn to a non-elected invention.

BACKGROUND

Appellants' invention relates to a phosphor particle bonded substrate. An understanding of the invention can be derived from a reading of exemplary claim 16, which is reproduced below.

16. A phosphor particle bounded substrate  
formed by a method comprising:  
    applying phosphor particles to the substrate;  
    submerging the substrate into a binder  
solution; and  
    removing the substrate from the binder  
solution at a predetermined rate.

The sole prior art reference of record relied upon by the examiner in rejecting the appealed claims is:

|         |           |               |
|---------|-----------|---------------|
| Janning | 5,982,082 | Nov. 09, 1999 |
|---------|-----------|---------------|

Claims 16-37 and 48-54 stand rejected under 35 U.S.C. § 102(e) as being unpatentable over Janning.<sup>1</sup>

OPINION

In reaching our decision in this appeal, we have given careful consideration to the appellants' specification and claims, to the prior art reference as applied by the examiner, and to the opposing viewpoints advanced by the appellants and the examiner. As a consequence of our review, we determine that the examiner has not established a prima facie case of anticipation.

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<sup>1</sup> Janning is also available as prior art under 35 U.S.C. § 102(a).

Accordingly, we will not sustain the stated rejection. Our reasoning follows.

Since the appealed claims are in product-by-process format, certain principles of patent jurisprudence apply. We note that the patentability of a product is a separate consideration from that of the process by which it is made. See In re Thorpe, 777 F.2d 695, 697, 227 USPQ 964, 966 (Fed. Cir. 1985). Moreover, determination of the patentability of a product-by-process claim is based on the product itself. See In re Brown, 459 F.2d 531, 535, 173 USPQ 685, 688 (CCPA 1972).

Also, we observe that in proceedings before the U.S. Patent and Trademark Office, claims are interpreted by giving words their broadest reasonable meanings in their ordinary usage, taking into account the written description found in the specification. See In re Morris, 127 F.3d 1048, 1054, 44 USPQ2d 1023, 1027 (Fed. Cir. 1997); In re Zletz, 893 F.2d 319, 321-22, 13 USPQ2d 1320, 1322 (Fed. Cir. 1989).

Applying these principles, we note that all of the claims on appeal require, as at least a part of the claimed subject matter, a phosphor particle bounded substrate or phosphor particle bounded anode electrode that is formed by a method wherein the substrate or anode, after applying phosphor particles thereto, is

removed from a binder solution; for example, after being submerged into the binder solution. Given the required binder solution contacting step conducted in forming the claimed substrate, it is reasonably concluded that the product substrate includes some binder material associated therewith as argued by appellants at page 3 of the reply brief and which is in accord with appellants' specification. See, e.g., page 8, lines 16-22, page 10, line 10 through page 11, line 2, and page 11, lines 16-19 of appellants' specification.

On the other hand and as recognized by the examiner, Janning is directed to a device with a phosphor layer on a substrate with the phosphor layer being applied by atomic layer epitaxy or by vapor reaction techniques. See column 9, lines 16-23 of Janning. Silicon nitride or other dielectric materials may be deposited on the phosphor layer of Janning via sputtering or chemical vapor deposition methods. (See column 6, line 65 through column 7, line 7 and column 12, lines 57-67). According to the examiner (answer, page 4):

[i]t is the examiner' position that the phosphor particle bound surface of Janning is identical to or only slightly different than the phosphor particle bound substrate prepared by the method of the claims. Even though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself.

While we agree with the examiner that it is the product itself at issue, the question here is whether the examiner has reasonably explained why a phosphor particle bound substrate including a binder of a type that can be applied using a binder solution, as here claimed, would reasonably be expected to result from following the described preparation method of Janning.

The examiner has not established that Janning, including the barrier layer (52) thereof, includes a binder of the here claimed type as part of the phosphor particle bounded substrate; that is, a binder of a type that can be applied using a binder solution. Here, the examiner offers no explanation other than the broad assertion that the burden has shifted to applicant by showing that Janning makes a product that includes a phosphor particle bounded substrate. Correspondence between the materials disclosed as useful for the barrier layer (52) of Janning and binder materials that are applied via a binder solution as claimed has not been established by the examiner. We recognize that the examiner bears a lesser burden of proof to establish a prima facie case of obviousness for product-by-process claims.<sup>2</sup>

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<sup>2</sup>In re Fessman, 489 F.2d 742, 744, 180 USPQ 324, 326 (CCPA 1974).

However, the examiner's broad conclusionary statements do not establish that the cited prior art discloses a product that is substantially identical with the product of the appealed product-by-process claims. For the foregoing reasons, we find that the examiner has not established a prima facie case of anticipation on this record.

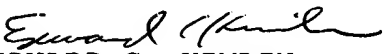
REMAND

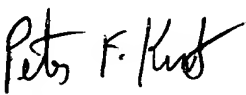
At pages 2-4 of their specification, appellants refer to phosphor particle bounded substrates including a binder of a type applied by known binder solution methods. We remand this application so that prior to final disposition of this application, the examiner with appellants' help, can determine the full extent of the known methods and whether or not products of those known method represents prior art (admitted or otherwise) to appellants' invention. If so, the examiner should consider whether or not a § 102/§ 103(a) rejection of any of appellants' claims over such prior art is warranted given that a product made by such known prior art methods would clearly be expected to include binder of the type here claimed in the product. In such a case, the examiner may effectively shift the burden to appellants to establish a patentable distinction for their product over those prior art products.

CONCLUSION

The decision of the examiner to reject claims 16-37 and 48-54 under 35 U.S.C. § 102(e) as being unpatentable over Janning is reversed.

REVERSED/REMANDED

  
EDWARD C. KIMLIN  
Administrative Patent Judge

  
PETER F. KRATZ  
Administrative Patent Judge

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Jeffrey T. Smith, *Administrative Patent Judge*, dissenting,

First, it is noted that the subject matter of claim 16 on appeal is written in product-by-process format. Therefore, the Examiner can satisfy his burden if the prior art reasonably appears to disclose a product that is identical with or only slightly different from the product claimed. See *In re Fitzgerald*, 619 F.2d 67, 70, 205 USPQ 594, 596 (CCPA 1980); *In re Fessman*, 489 F.2d 742, 744, 180 USPQ 324, 326 (CCPA 1974). Once the Examiner meets this burden of proof, the burden shifts to Appellants to show that the claimed product materially differs from the product of the prior art. It is the product that must be gauged in light of the prior art, not the process limitations. See *In re Wertheim*, 541 F.2d 257, 271, 191 USPQ 90, 103 (CCPA 1976); *In re Fessman*, *supra*.

Appellants' invention relates to a phosphor particle bonded substrate. According to Appellants, the substrate is useful in field emission display (FED) device that uses electron emissions to illuminate a luminescent display screen and generate a visual image. (Brief, p. 2). Janning also discloses a phosphor particle bonded substrate used in an FED device that uses electron emissions to illuminate a luminescent display screen and generate a visual image. (Cols. 5-7). Janning discloses that



the phosphor layer (40) is coated with barrier layers (52) and (54) that function to prevent the phosphor materials from decomposition or scattering within the FED device when the device is activated. (Col. 11, l. 47 to col. 12, l. 11). According to Appellants, specification page 8 and Brief page 3, the binder of the claimed invention functions in a similar manner. Consequently, it appears that the barrier layer of Janning and the binder layer of the claimed invention function in a similar manner.

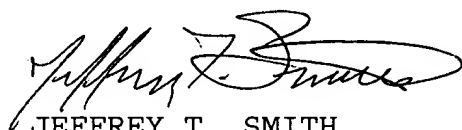
Therefore, it is my opinion that the Examiner has satisfied his burden of proof that Janning discloses a product that is identical with or only slightly different from the product claimed. Since the Examiner has satisfied his burden of proof, the burden was shifted to Appellants to show that the claimed product materially differs from the product of the prior art. However, the Appellants have failed to provide evidence that the claimed product materially differs from the product of Janning.

Appellants argues that the product of the claimed invention is not the same as Janning because the claimed invention has improved adherence of the phosphor particles to each other and the faceplate. (Brief, p. 5). This argument is not persuasive

because Appellants have failed to provide evidence to support this position.

Appellant argues that the claimed invention may include binder materials that are dissolved in a liquid and deposited on the substrate by submerging the substrate in the liquid (binder solution). (Reply Brief, p. 3). This argument is not persuasive because the subject matter of claim 16 is not limited to a binder dissolved in a liquid.

For the foregoing reasons, and those presented by the Examiner, it is my opinion that the Examiner has satisfied his burden of proof and established a prima facie case of unpatentability which has not been adequately rebutted by the Appellants on this record.



JEFFREY T. SMITH  
Administrative Patent Judge

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